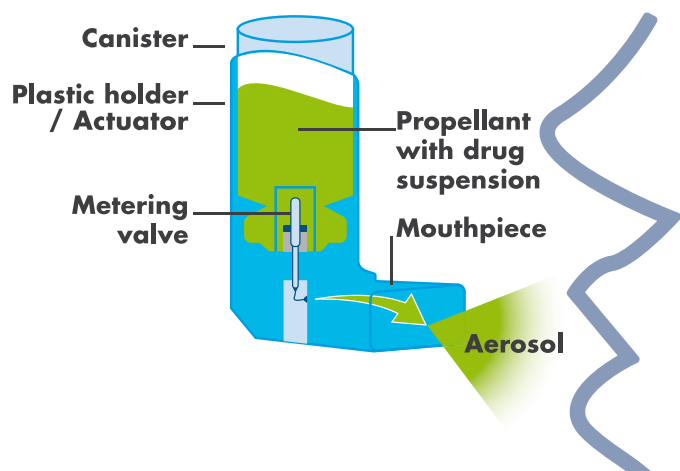


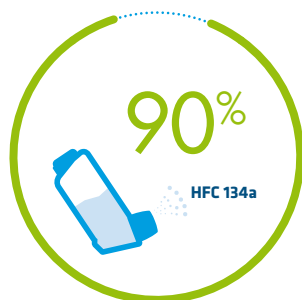
# HFCs MAKE MDIs WORK



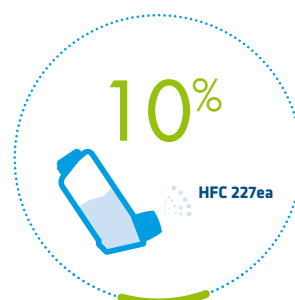
## HFCs propellant

requires boiling point between  $-30^{\circ}\text{C}$  and  $-10^{\circ}\text{C}$  ensuring good atomisation to a very fine mist inhaled deeply into the lungs providing good delivery of the correct dose of medicine.

## HFCs USED IN MDIs



**HFC 134a**  
it accounts for about **90%** of HFC used globally in MDIs



**HFC 227ea**  
is used in the other **10%**

	HFC 134a	HFC 227ea
Chemical Name	1,1,1,2-tetrafluoroethane	1,1,1,2,3,3,3-Heptafluoropropane
Boiling Point	<b><math>-26.4^{\circ}\text{C}</math></b>	<b><math>-16.4^{\circ}\text{C}</math></b>
Chemical Structure	$\begin{array}{c} \text{F} & \text{F} \\   &   \\ \text{F}-\text{C}- & \text{C}-\text{H} \\   &   \\ \text{F} & \text{H} \end{array}$	$\begin{array}{c} \text{F} & \text{H} & \text{F} \\   &   &   \\ \text{F}-\text{C}- & \text{C}- & \text{C}-\text{F} \\   &   &   \\ \text{F} & \text{F} & \text{F} \end{array}$

### ENVIRONMENTAL EFFECT: HFCs ARE GREENHOUSE GASES but

Based on carbon footprint estimates, the estimated carbon dioxide equivalent of a **2-puff dose of an HFC MDI** (200g  $\text{CO}_2\text{eq.}$ ) is comparable to the climate impact of everyday items, such as a 330ml can of cola (170g  $\text{CO}_2\text{eq.}$ )